DOCUMENT RESUME

ED 037 243 PS 002 992

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TITLE	The Influence of Two Counseling Methods on the Physical and Verbal Aggression of Preschool Indian Children. Part of the Final Report on Head Start Evaluation and Research: 1968-69 to the Office of Economic Opportunity.
INSTITUTION	Texas Univ., Austin. Child Development Evaluation and Research Center.
SPONS AGENCY	Office of Economic Opportunity, Washington, D.C.
REPORT NO	OEO-4115
PUB DATE	Aug 69
NOTE	93p.
EDRS PRICE	EDRS Price MF-$0.50 HC-$4.75
DESCRIPTORS	Aggression, American Indian Culture, *American Indians, *Emotional Adjustment, *Experimental Programs, Group Counseling, Hostility, Parent Child Relationship, *Parent Participation, Play Therapy, *Preschool Programs, Reinforcement
IDENTIFIERS	Community Action Programs, Gila River Reservation

ABSTRACT

The purposes of this study were (1) to investigate the influence of anthropomorphic models as a therapeutic vehicle to help 5-year-old Indian children to appropriately handle, and thereby decrease, physical and verbal aggression, and (2) to investigate the influence of group counseling with Indian mothers as it affects agression in their preschool children. Subjects in the 8-week study were 30 children randomly assigned to three groups. In Group I, children were placed in a controlled environment with human-feature, life-size dolls. Mothers of Group II met for 90 minutes weekly to see a film and participate in group counseling. The counseling model used was perceptual modification through verbal reinforcement. Group III was the control group. Pre- and post-observations and ratings were made for the subjects on an experimenter-designed instrument which measured quantitative aggression responses. Study results revealed no significant differences in physical, verbal, or total aggression between experimental and control groups before or after treatment. Indian mothers significantly increased verbal output during treatment, but results indicated that this change bore no relationship to children's aggressive behavior at preschool. (DR)

PART OF THE FINAL REPORT

ON

HEAD START EVALUATION AND RESEARCH: 1968-69

TO

THE OFFICE OF ECONOMIC OPPORTUNITY
(Contract No. OEO-4115)

CHILD DEVELOPMENT EVALUATION AND RESEARCH CENTER

John Pierce-Jones, Ph. D., Director

The University of Texas at Austin

August, 1969

THE INFLUENCE OF TWO COUNSELING METHODS ON THE PHYSICAL AND VERBAL AGGRESSION OF PRESCHOOL INDIAN CHILDREN

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This study was supported by Contract No. OEO-4115 between the Office of Economic Opportunity, Project Head Start, and The University of Texas at Austin.

ACKNOWLEDGEMENTS

I deeply appreciate the help of the following in supervising this study: Dr. Garth J. Blackham, chairman, Dr. Sandford S. Davis, Dr. Philip D. Gaffney, Dr. Robert A. Heimann, and Dr. Wayne R. Maes.

Special recognition is given to Barbara Warwick, Eleanor Pablo, Eleanor Pasquel, and Imogene Osife who observed and rated the children, and to Daisy Chalk for allowing the study to be completed in her school.

I am especially appreciative of Ellen Felix who typed the manuscript, and to L. Dean Kirk for his assistance and encouragement in completing the study.

I pay tribute to my wife, Bonnie, for her unselfish secrifice and support in making possible my pursuit of this scholastic endeavor.

ABSTRACT

I. Statement of the Problem

The purpose of this study was to: (a) investigate the influence of anthropomorphic models as a therapeutic vehicle to facilitate five-year-old Indian children in learning to express and appropriately deal with aggressive impulses, and (b) investigate the influence of group counseling with Indian mothers as it affects five-year-old Indian children's aggression.

II. Procedures

The population for the study was drawn from a Community Action Program preschool on the Gila River Indian Reservation. The children were all Indians, having an age range from five years seven months to six years three months. The sample included boys and girls mostly of Pima descent and living in the Sacaton, Arizona, area.

The experimental design used was a Pretest-Posttest Control Group Design. Thirty subjects were randomly assigned to three groups, two experimental and one control. Each group consisted of ten subjects. All ten children of E_1 (play therapy with anthropomorphic models) were placed in a controlled environment with the dolls for 35 minutes three times each week. The mothers of E_2 (group counseling) met for 90 minutes each week, the first half of which was spent seeing a film and the

remainder participating in group counseling. The counseling model used was preceptual modification through verbal reinforcement. The third group received no treatment and served as a control group. Treatments were extended over a period of eight weeks, with treatment time being equal for both experimental groups.

Differences between groups were investigated by analysis of covariance, and differences within groups were investigated with Sandler's A statistic. Relationships between mothers' verbal response and resultant changes in their children's behavior at school were investigated using Kendall's coefficient of correlation.

The instrument used for rating children's aggression was designed by the experimenter. The observer-raters were four female Indians who had worked as counselor aides for over one year. The pre- and post-observations were made by the raters for 20 minutes during classroom free play on three consecutive days. Rater reliability was computed using Kendall's Tau and Concordance for five simultaneous 20 minute observations during classroom free play at another school. Tau correlations ranged from .56 to 1.00 for physical aggression and from .82 to 1.00 for verbal aggression. Concordance correlations ranged from .80 to 1.00 for physical aggression and from .71 to 1.00 for verbal aggression.

III. Results and Conclusions

Analysis of the findings revealed no significant differences in physical, verbal, or total aggression between the two experimental and

control groups before or after treatment. There were decreases in physical aggression for E_1 and E_2 significant at the 0.15 level, and a decrease in verbal aggression for E_1 significant at the 0.10 level. Decreases in total aggression for E_1 significant at the 0.10 level and for C_1 at the 0.05 level were also noted.

Comparison of mothers' total verbal responses during the first two and last two treatments indicated a mean change which was significant at the 0.01 level.

The correlation between mothers' total verbal responses during treatment and their children's physical and verbal aggression was significant only at the 0.30 and 0.50 levels respectively.

It may be concluded that play therapy using anthropomorphic models does not significantly decrease physical or verbal aggression for five-year-old Indian children. The slight changes occurring within groups suggested that treatment over longer periods of time might prove effective.

Although group counseling with Indian mothers significantly increased verbal output during treatment, the results indicated no relationship between this change, and their children's aggressive behavior at preschool. In considering the implications of the study, it should be noted that the criterion instrument measured only quantitative aggression responses. Also, the aggression response records of some children indicated significant decreases in aggression which were not apparent when comparing groups. It could be recommended, therefore, that another similar study be designed which would continue over a longer period, incorporate non-parametric statistical analysis, and investigate the effect of the above treatments on qualitative in addition to quantitative variables.

TABLE OF CONTENTS

CHAPTER III (Continued)

CHAPTER IV

CHAPTER V

LIST OF TABLES

CHAPTER I

The Problem and Definitions of Terms Used

As the American economy becomes more affluent, there is an increased awareness of the poverty and deprivation of certain ethnic groups. Among these are the American Indians who in the past have attempted to hang on to threads of their ancient culture while being enmeshed in values of the twentieth century.

A manpower survey taken on the Gila River Reservation in 1966 indicated that approximately 80 percent of the adult males had never been employed for a full year. The unemployment rate of the available work force in 1966 was 45 percent.

The average annual family income on the Gila River Reservation in 1966 was less than $1,845, and 89 percent of the families had annual incomes of less than $3,000, with over 600 families living on less than $1,000.

The survey indicated that the average educational level of the adult population on the Reservation was between seventh and eighth grades. Traditionally, most of the Indian children have remained in first grade for two or more years. It is not uncommon to find Indian students who have remained in high school for five or six years, and are twenty-two years of age at graduation. The conventional answer to the etiology of the basic problems in Indian education seems to be

economic and experiential deprivation. One aspect of the problem which is seldom mentioned, however, is frustration and aggression, and their relationship to academic success and social adjustment.

Overt hostility and physical aggression play an important role in the culture of the Pima Indian as can be evidenced by the number of arrests for assault, and the number of cases treated at the hospitals as a result of assault.[1] For example, in 1967 there were 1,465 adult and 231 juvenile arrests by the Gila River Bureau of Indian Affairs law enforcement agency. The arrest ratio for adults in 1966 was 130 per 1,000 for males, and 14 per 1,000 for females. In 1967, the ratio was 179 per 1,000 for males, and 21 per 1,000 for females, which is an increase of 27 and 30 percent respectively. The arrest ratio for juvenile males in 1966 was 23 per 1,000, and 4 per 1,000 for females, with no significant increase in 1967. It is also significant to note that there are many more arrests of Reservation Indians in the surrounding communities which are not accounted for in these statistics. A breakdown of types of arrests shows that the majority for both adult and juvenile arrests fell in the classifications of drunk and disorderly, theft, and assault.

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[1]These statistics were taken from the police records of the Gila River Indian Community Court.

The Problem

Identification of the Problem

This research was an outgrowth of empirical observation and s[illegible]. In 1968 the Gila River Indian Reservation had seven preschools funded by the Office of Economic Opportunity. Within the educational component there was a provision for counseling and psychological services for each school. The counselor's responsibility was to visit each school on a weekly basis. After a number of visits, the writer who was then a counselor noted that some of the children began using him as a displacement object for overt aggression. They would at times even call him "daddy." They would hit him with their fists, bite, pinch, and use aggressive language toward him.

The teachers began to comment that the children who were most aggressive toward the counselor tended to show less overt aggression in the classroom. This research was designed to investigate the effectiveness of using anthropomorphic models with children, and group counseling with mothers, to reduce overt aggression at school.

Statement of the Problem

The purpose of this study was to determine whether two different treatment methods could decrease the overt physical and verbal aggression in preschool Indian children.

Specifically, the study attempted:

1. To determine the relative effects of using anthropomorphic models as a medium in helping five-year-old Indian children to appropriately handle and thereby decrease physical and verbal aggression.
2. To determine the utility of group counseling with Indian mothers thereby decreasing physical and verbal aggression in their preschool chidren.

Importance of the Study

There is a dearth of research relative to American Indian cultures, especially the educational aspects. As a counselor working with Pima Indians, it was the writer's opinion that most Indian students had adequate vocabulary and facility in English mechanics for communication. The basic problems of Indian children seemed to be those of expressing emotion, lack of impulse control, and inadequate facility in interpersonal communication. These problems seemed to be related to socialization processes in the culture because of the emphasis placed on not feeling or showing emotion or being discouraged from obtaining clarification of intent from others. The contention of the study is that this produced a great deal of repressed hostility. This study was designed to: (a) allow one group of five-year-old Indian children free expression of their aggressive impulses toward anthropomorphic dolls, the aim of which was catharsis and learning better impulse control, thereby decreasing overt aggression; and (b) change the mother's perceptions and values and the means by which child aggression was handled,

thus anticipating that the child would learn to express his emotions freely, and have better interpersonal communication with his family--thereby decreasing his overt aggression.

Definitions of Terms

Anthropomorphic Models

Anthropomorphic models are life-size dolls with human features. The models used in this study consisted of one adult male and one adult female. The terms doll and model were used interchangeably throughout the study. Because the research population was Indian, the dolls had dark skin, black hair, and brown eyes.

Hostility

Hostility is an attitudinal response that endures, and which superimposes on the person an implicit response involving negative feelings and evaluations of people and events.

Repressed Hostility

Repressed hostility is defined as an anger response which builds and changes slowly, endures long after the immediate anger dissipates, and is not consciously accessible.

Disolaced Aggression

Displacement typically involves the discharge of aroused emotions toward neutral or less dangerous objects. In this study, displacement referred to any physical or verbal aggressive act toward the dolls or other persons during free play.

Playmaking Aggression

Playmaking aggression was defined as aggressive behavior in the context of pretense. It was not included in this study as overt aggression.

Verbal Aggression

Verbal aggression was defined in this study as a vocal response which delivered noxious stimuli to another person, or toward the dolls. These responses included: (a) threatens another person with regards hurt or property destruction, "I'm going to hurt you"--"I'm going to break that"; (b) commands--demands, "Get away"--"Give me that"--"That's mine"--"Move"; (c) shifts blame, "They did it"--"It's his fault"; (d) refuses to comply, "I won't do it"--"Make me"--"Do it yourself"; and (e) denies privilege, "You can't do that"--"That's not yours"--"You can't have a turn."

Physical Aggression

Physical aggression was defined as an assault against another person, or the dolls, by means of body parts or other instruments. These responses included: (a) hits, kicks, bites; (b) chases in anger; (c) pushes, pulls, holds; (d) grabs property of others, damages property of others; and (e) raises arm to hit, raises foot to kick, any attempt to hurt another person or destroy property of another person.

Group Counseling

Group counseling in this study was structured in accordance with an operant reinforcement model. Reinforcement was social reward. The emphasis was on the perceptual modification of Indian mothers related to three variables: (a) overt showing of emotion, (b) consistent limit setting and follow up, and (c) clarification of verbal and nonverbal communication between themselves and other family members.

Group Free Play

Group free play was identified as play in the classroom which had no structure imposed by a teacher or aide. During pretest observation the only limits imposed on the children were restrictions against destruction of school property. All physical and verbal aggression involving teachers and peers was allowed. Destruction of peers' belongings was also allowed.

Hypotheses

The stated problem suggested the following three major null hypotheses:

HO_1 There are no significant differences between the mean aggression frequencies for children in the two treatment groups (E_1 and E_2),[2] and C_1--the control group--on

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[2]The symbols E_1, E_2, and C_1 will be substituted throughout the study for Experimental Group 1 (play therapy using anthropomorphic models), Experimental Group 2 (group counseling with mothers), and the Control Group.

the two criterion measures, overt physical and verbal aggression in classroom free play.

HO_2 There is no significant difference between the total number of verbal responses for the mothers of E_2 when comparing the mean scores of the first two and last two treatments.

HO_3 There is no significant relationship between the total number of mothers' verbal responses during treatment, and changes in their children's physical and verbal aggression in classroom free play.

The treatment of data pertaining to tests of these hypotheses for the criterion measures is discussed in detail in Chapter III.

Summary

The problem, definitions of terms, and null hypotheses to be tested have been presented in this chapter. The problem was to determine whether two different treatment methods could decrease physical and verbal aggression in preschool Indian children. The treatment methods used were play therapy using anthropomorphic models and group counseling with Indian mothers.

The hypotheses presented tested the assumptions that the two treatments suggested by the problem would have no significant effect on the overall physical and verbal aggression of preschool Indian children. Chapter II contains a review of literature pertinent to the stated problem.

CHAPTER II

Review of Related Literature

In reviewing the literature for this study, it seems necessary to restate the purposes. Specifically, does group counseling with mothers, and play therapy with anthropomorphic models produce significant changes in aggressive behavior of five-year-old preschool Pima Indian children. The problem suggests a review of literature in five areas: (a) general aggression, (b) antecedents of aggression, (c) fantasy aggression, (d) play therapy, and (e) operant learning.

Aggression in General

Specific antecedents of aggression seem to be many, but in general there are two classes: (a) frustration and (b) noxious stimuli. Dollard (1939) has suggested that the intensity and/or frequency of aggression covaries with the strength of frustration. This was further substantiated by Doob and Sears (1939) and Allison and Hunt (1959) through questionnaire studies but not in the laboratory. Dollard et al. (1939, p. 23) emphasized the pain-inducing aspects of aggression as an emotional reaction to frustration. Maier (1949) takes an even more extreme position on aggression as an emotional reaction to frustration. He denies that the intent to injury is a consequence of frustration, but the reaction is so great that the consequence is an emotional flailing and has no direction or goal. The noxious stimuli which seem to lead to

aggression include attack and annoyers. Attack involves the victim's pain as a reinforcer, and annoyers irritate the victim.

Aggression followed by personal punishment usually produces anger in the aggressor. Punishment from an authority figure inhibits aggression because more aggression leads to more punishment. The anger engendered by punishment will often persist after the punishment has passed. Anger tends to lower one's resistance for aggressive responses, and in the absence of imminent constraint, stimuli which ordinarily would not elicit aggression therefore produce aggressive responses.

McKee (1949) compared aggression and social class for 112 five-year-olds in preschool. Through recorded verbalization during play, he concluded that probably because of greater parental tolerance of aggression, less supervision, and greater material deprivation, lower-class children tend to be physically more aggressive than middle-class children in free play situations. Davis and Dollard (1940) in a report to the American Council on Education relating aggression to deprivation also noted a direct relationship between social class and aggressive behavior.

Boyd (1955), in studying the patterns of aggression in nursery school, found that children of parents who are professional persons tend to use verbal rather than physical aggression.

In a study related to the control of aggression, Fishback (1964) identified two aggressive drives: (a) expressive (the desire

to hit), and (b) hostile (the desire to hurt). She proposed that both of these drives have as their antecedent past exposure to punishment, and present threat to self-esteem. Aggressive acts toward inanimate objects were not significantly different. She found also that socio-economic status had no significant effect on aggression.

Dawe (1934) analyzed 200 "quarrels" among preschool children and found that:

1. Boys quarrel more and are generally more aggressive.
2. Preschool children tend to quarrel with others of the same sex.
3. Most aggression centers around a struggle over possessions.
4. Pushing, striking, and pulling are the most common forms of aggression.
5. Preschool children tend to recover quickly with little or no evidence of resentment.

Summary

The review of literature pertaining to general aggression indicated that it takes two forms: (a) attack, for which the desired outcome is pain, and (b) annoyances, which are exhibited to others as irritation.

Anger lowers one's resistance and tolerance for conflicts, thereby increasing the probability of aggression.

Children of deprived families tend to respond to conflicts with physical aggression, while children whose parents are professional persons tend to respond with verbal aggression.

Preschool boys quarrel more, and are generally more aggressive than girls.

Most aggression in preschool is exhibited in the form of pushing, pulling, and striking.

Parental Influence on Aggression

In delimiting the antecedents of aggression, the literature shows that parental control plays the most significant role. Sears et al. (1953) was able to show in his extensive study of forty preschool children (twenty-one male and nineteen female) that there is a significant relationship between aggression and frustration at home. Through classroom observations and mother interviews, he concluded that:

1. Because of their identification with their mothers, girls thus suffer more from punishment and exhibit less overt aggression than boys.
2. Severity of punishment for aggressive behavior by the mother has a curvilinear relationship with the amount of aggression displayed at preschool with moderate punishment producing the greatest amount.

3. Girls identify more strongly with their mothers; therefore a given degree of maternal frustration or punitiveness has a stronger effect on them.

In a study relating Indian values with child control, Wallis (1954) found that Sioux Indian parents do not believe in physical punishment for bad behavior. They use fear instead--fear of death, supernatural, animals, birds, and returning "spirits," usually in the form of old women.

Dennis (1940) in a study of Hopi Indian children found that a resentment is established against the maternal uncle rather than the father. This condition exists because the formal authority role is assumed by the maternal uncle rather than by the father.

Delaney (1965) in determining which parent had the greatest effect on aggressiveness in young children (ages three--five) found that for this group the mother's discipline was the most significant predictor of aggressiveness. The study also indicated that there was a relationship between aggression and degree of restrictiveness. There was also a relationship between aggression and same sex parent restrictiveness.

Becker et al. (1960) interviewed parents of sixty-four normal and disturbed children in a clinical setting. By using a seventy-two variable bipolar adjective rating scale, he found that arbitrary and authoritarian maternal attitudes were highly correlated with aggression.

Excessive shyness and timidity were associated with parental maladjustment. In a study comparing parent attitudes and their relationship to social deviancy in children, Rau and Wender (1962) found that aggression and dependency were highly correlated with restrictiveness, punitiveness, and parental rejection. Parents of children who were well accepted in school did not tend to be aggressive or punitive, and had low demands for aggression. They concluded that deviant social behavior develops in a setting of punitiveness, restrictiveness, and ambivalence, and that the mother's impact on a son seemed to be a complicated function of her relationship with other family members.

Becker (1962), studying behavior problems of 71 five-year olds, found a high relationship between mother's child rearing anxiety and aggressive behavior. Also, through the analysis of a seventy-one factor rating scale completed by each parent and the teacher, he concluded that:

1. The hostility of both parents, and the use of physical punishment, elicits aggressive behavior in the child.
2. There is a significant relationship between father's strictness (not restrictiveness) and aggression.
3. Girls moderately punished by mothers were most aggressive at school.
4. Boys moderately punished by their fathers were the least aggressive at both home and school.

5. There was a significant relationship between fathers' hostility and physical punishment and their daughters' aggression at home and at school.

Sperling (1951) found, as did Becker, that where a mother has no faith in her ability to control her own objectionable impulses, she can have little expectation that the child can achieve control. She further stated that, "many parents seduce their children into anti-social behavior because of their own strong impulses or rationalizations."

Rosenthal (1962) investigated the effect of inconsistency in mothers' discipline to aggressiveness. It was concluded that difficulty in limit setting arises because mothers conceive discipline as a hostile act directed at the child. The mother attempts to minimize her hostility through inconsistent permissiveness. The child is left with little or no support from her to suppress his anti-social impulses. Thus he must, over and over again, test the limits of tolerance of others for his misbehavior. More important, he hopes to provoke others into actively setting limits for him. A child reacts to his mother's weakness by searching for, and trying to provoke, strength from her. He exploits her weaknesses by direct gratification of his needs. Rosenthal suggests that effective therapy involves helping the mother find the disciplinary lapse, and supporting her in setting and affecting consistent limits.

A study by Rosenthal, Finkelstein, and Robertson (1960), of mother-child relationships which resulted in the emotional disorders

of children, isolated four syndromes. The associated problems of punitive mothers were disobedience, with hostility, temper tantrums, solitary stealing, destructiveness, restless, excitability, lying, bullying, domineering, and aggression. The children of critical, deoreciative mothers tended to lie, steal, daydream, be enuretic, have feeding problems, be over competitive with siblings, and have fear of school. Children of mothers who were inconsistent were disobedient, restless, excitable, aggressive, domineering, truant, and competitive with siblings. Mothers who were overly permissive had children who were domineering, aggressive, disobedient, hostile, thieves, liars, bullies, and were domineering.

Antonovsky (1959) and Reichart (1965) researched the effect of maternal over-restrictiveness. Antonovsky's study indicated there was a significant relationship between restrictiveness and aggression. Reichart found that restrictiveness was not positively related to fantasy, and children of higher socioeconomic levels were better able to tolerate delay.

McKee (1949) divided preschool children into three subgroups of low, medium, and high maternal punishment at home. He plotted the frequency of aggressive behavior at school. The low and high punishment mean frequency of aggression were not significantly different, but the medium punishment group produced a reliably higher number of aggressive acts.

Sears and Levin (1956) interviewed 379 mothers of five-year-old children in the Boston area. They concluded that maternal punishment of undesirable behavior did not appear to be an effective method of eliminating undesirable behavior, and severe physical punishment was associated with aggression toward the parents, and also retarded moral development. "Cold" mothers reported a background of enuresis, aggressiveness, and feeding problems. Children of mothers who used intermittent punitiveness showed a higher degree of aggressiveness.

The effect of punishment by different significant persons on aggression was cited by Lesser (1958). He tested the assumption that there is a relationship between the strength of aggressive need, and the strength of anxiety about expressing the need. Using a sample of seventy-two white boys of ages 10 to 13, and incorporating a modified TAT technique, Lesser concluded that children punished by peers exhibit a significantly lesser degree of aggression than when punished by parents, teachers, or siblings.

Summary

Literature concerning the parental influence on aggression indicated that there is a significant relationship between aggression and frustration at home.

Females, because of their strong identification with mothers, respond differently to discipline than do males. Moderate punishment produces more aggression for both males and females than severe or lax punishment. Arbitrary and authoritarian maternal attitudes are

highly correlated with aggression. Maternal child-rearing anxiety undermines the child's self control. Inconsistency leaves him with little or no support to suppress aggressive impulses.

In conclusion, the literature tended to show that maternal discipline is the best predictor of aggression.

Fantasy Aggression

Doll play and fantasy aggression are significant techniques for investigating aggression in children because of the methodological attention they have received and the vast amount of information yielded. Fantasy aggression typically involves the discharge of aroused emotions toward neutral or less dangerous objects. In this study, fantasy aggression referred to any physical or verbal aggressive act toward the dolls in free play. Fantasy aggression and displaced aggression were used interchangeably.

Fishback (1955) provided evidence of the drive-reducing function of fantasy aggression. He insulted two groups of college students during class to the point of anger. One group was allowed the use of fantasy aggression immediately after anger, and the other group went on as usual. The results indicated that the experimental group exhibited considerably less overt aggression than the control group did during the remainder of the allotted time.

Research related to maternal treatment of aggression in the home and the antecedent aggression in doll play was quoted by Sears

(1950) and McKee (1949). Sears found that mild punishment in the home frustrated a child and increased fantasy aggression. Severe punishment inhibited aggression at home but increased it in doll play. McKee studied the fantasy aggression related to different types of dolls. High punishment led to greater usage of the child dolls, while medium punishment led to parent doll agents.

Identification models for fantasy aggression were discussed by Hicks (1965) and Bandura and Walters (1959). Hicks, using peer and adult models in film, provided evidence that young children develop models for aggressive behavior through imitation. Bandura and Walters, using films showing adults and peers striking BOBO clowns and other objects, produced significantly greater amounts of fantasy aggression than did control groups.

Sears (1956) supported evidence that there is a high correlation between identification with parents, and the frequency and level of fantasy aggression in doll play. He also found that youngest and only children were most aggressive. There were session-to-session increases in aggressive responses, with boys being most aggressive.

Maternal response to overt aggression and its antecedent to fantasy aggression was explored by Lesser (1957). He found that encouragement of aggression at home produced a higher degree of relationship between fantasy and overt aggression.

Mussen and Naylor (1954) researched the relationship between overt and fantasy aggression. A sample consisted of twenty lower class white boys, and nine Negro boys referred through the court. Interviews, using the TAT, and daily observations of behavior indicated that: (a) greater amounts of fantasy aggression results in more overt aggression, and (b) greater amounts of fantasy aggression plus a slight degree of fear of punishment increases fantasy aggression.

Summary

The question of whether fantasy aggression increases or decreases overt aggression is moot. The review of literature would tend to suggest that fantasy aggression is a projection of drive strength. The studies incorporating modified TAT techniques for reducing drive decreased overt aggression. The studies using imitation of an aggressive model increased overt aggression.

The related studies were conclusive, however, that there is a high degree of relationship between fantasy aggression, punishment, and overt aggression.

Play Therapy

Traditionally, play therapy is a technique which enables a child to express and experience himself in a controlled environment. In this study, play therapy is specifically defined as play in the classroom which had no structure imposed by a teacher or aide.

In examining the therapeutic variables incorporated in play therapy, it was impossible to delineate their specific effects in the therapeutic process. It was necessary, therefore, to view the environment and function of the therapist as one treatment.

In describing the therapeutic value of play therapy, Axline (1947) stressed the importance of the interpersonal relationship. She felt that along with the main focus of safety and acceptance, limits and consistency were equally important if the relationships were to endure. She further postulated that play therapy in order to be effective must be specifically designed to an individual and consistent within a rationale.

Sears (1951) suggested that the adult's role in the expression of aggression in play therapy was an important one. She felt that as the child aggressed in a permissive atmosphere, the adult was a reinforcing agent, and the child gradually lost his fear of punishment.

Anna Freud (1946), in her analysis of children, explained that the same dynamics do not occur in the transference relationship as with adults. Her feeling was that the children were still in constant contact with their first objects (parents) and not merely in imagination. She postulated that the infantile ego-ideal is still too weak, and:

> In children the negative tendencies they direct toward the analyst, illuminating as they so often are in many ways, are essentially inconvenient, and we must reduce them and weaken them as soon as possible. It is in their positive relation to the analyst that truly valuable work will always be done [p. 51].

Klein (1932), in contrast with A. Freud, stated that "children can quite well produce a transference-neurosis so long as the negative feelings toward the therapist are analyzed." To further substantiate her position, Klein described the treatment of a three-year-old girl showing symptoms of obsessional-neurosis. She related one instance where the girl described being attacked by her father's penis, which would bite off her genitals for wanting to castrate him. During this time she was punishing her doll and giving way to outbursts of rage and fear which Klein described as, "playing both parts--inflicting punishment, and punishing herself." During the eighty-three sessions described by Klein, the meanings of symbols, methods, and mechanisms of employment were extremely evident. The doll at times would stand for herself, her father's penis, or a child she had stolen from her mother. A significant aspect of Klein's work related the willingness of children to accept interpretations, and the rapidity of behavior change fostered by an interpretation.

Klein's (1955) main assumption for play therapy was that behind every play activity there are masturbatory phantasies operating in a continuous impulse to play. This is a form of repetition-compulsion which constitutes the fundamental mechaniems , and all subsequent sublimitations. Play therapy increases the child's awareness to distinguish between his pretense mother and his real one, or between his toy brother and hic live one. Hopefully, children are able to substitute for the processes of repression, those of critical rejection.

Ginnott and Lebo (1961) surveyed the extent of limit setting by 227 practicing play therapists from different orientation. The results indicated that therapists of varied orientations did not differ in the number and type of limits imposed.

In another study, Ginnott (1959) set forth a theoretical rationale for effective limits which facilitated play therapy in that:

1. Limits directed catharsis into symbolic channels.
2. Limits enabled consistent behavior on the part of the therapist.
3. Limits insured physical safety of the children and the therapist.
4. Limits strengthened ego control.
5. Limits helped children learn acceptability of social standards.

The importance of play room equipment and structure in play therapy was investigated by Pintler (1945). She found that initial organization of materials was an important variable in aggression fantasy. A more organized set led to significantly more aggression. She also found that high interaction between experimenter and child yielded more doll play aggression than low interaction.

The review of literature yielded only one research study using anthropomorphic models relative to fantasy aggression. Schell (1967) demonstrated that life-size dolls used in play therapy reduced overt aggression on the playground.

The effect of skin color and facial features in fantasy aggression was studied by Ammon (1950). He found that four out of ten white five-year-olds already had clearly defined negative feelings toward a Negro doll.

Summary

The literature suggested the probability that the therapist in a play therapy setting can be both a transference object and a significant other person. The functions of play therapy included: (a) the conditioning of the child to other types of adult behavior, (b) the opportunity for the child to experience himself in a safe environment, and (c) the chance for the child to learn to distinguish the difference between fantasy and reality.

Operant Learning

Central to the process of operant learning is reinforcement. The review of literature pertaining to operant learning considered only secondary reinforcers (verbal) which when presented subsequent to a response increased the probability of the recurrence of that response.

Skinner (1957) said that, "If an operant response occurs and is followed by reinforcement, its probability of occurring again increases." He also concluded that reinforcers can become conditioned, that is to say if the stimulus occurs repeatedly with a positive reinforcer, it tends itself to acquire the capacity to reinforce

behavior. A technique used by Skinner to produce human behavior outside the normal range is called shaping. This is accomplished through a series of successive approximations, each made possible through selectively reinforcing certain responses and ignoring others.

Greenspoon (1955) demonstrated the effect of verbal conditioning. He instructed subjects to simply say words. The subjects had no clues in the instructions as to what sorts of words were desired. The verbal reinforcement from the experimenter came only when the subjects said plural nouns. The results of the study indicated that the responses of the subjects were significantly greater for plural nouns than from other words.

Krasner (1963) described psychotherapy as a process of shaping patients' behavior via verbal clues and reinforcements administered by the therapist. He summarized by stating "Psychotherapy is a 'lawful' process for which the therapist receives his training in the technique of influencing another's behavior."

Awareness by subjects relative to the nature of their participation in reinforcement studies was reported by Spielberger et al. (1966) and Nuthmann (1957). Spielberger found that subjects who were aware of the response-reinforcement contingency showed significantly greater improvements than their subjects. Nuthmann, on the other hand, reported no significant difference between subjects who were aware or unaware. Locke (1966) reviewed studies related to subject awareness

and suggested that the subjects' commitments or intentions had a more significant effect than awareness. Eckman et al. (1963) found that positive-set aware subjects increased their use of emotion laden words, but negative set subjects decreased their use of emotional words when both groups received the same treatments.

Of prime concern regarding the usefulness of the principles of verbal reinforcement is the extent to which the change in verbalization generalizes to behavior. Dinhoff et al. (1960) found that subject reports which had been reinforced in a group were generalized to a free discussion group. Relative to emotional content, Ullman et al. (1961) demonstrated that when individuals were reinforced for using emotional words, they tended to use more emotional words in a group therapy situation. Moyer (1968) studied the effects of reinforcing understanding responses in groups of student nurses. He concluded that the nurses after only ninety minutes of treatment used more understanding responses.

Operant conditioning in general conversation was investigated by Verplanck (1955). The subjects had no knowledge of being in an experiment. The verbal behavior desired by the experimenter was reinforced with no response given to other conversation. The desired verbal behavior became more frequent during the conversation.

The relationships between changes in verbal responses and resulting instrumental behaviors were studied by Dollard and Miller (1950). They postulated that verbal responses are tied to verbal

cues, and that the resulting instrumental behavior comes under the control of these verbal responses. The reinforcement of reported instrumental behavior therefore increases that behavior.

Rogers (1960) demonstrated the effectiveness of modifying verbal behavior through operant techniques without the subject's awareness. For a sample of thirty-six male college students, and by using simple reinforcers, Rogers was able to change their self reference verbalization. He concluded that: (a) conditioning can be accomplished without awareness, (b) responses were not related to degree of anxiety or emotional adjustment, and (c) the results were not generalizable.

Krasner (1962) tested the verbal responses used by therapists which seemed to be the most effective as reinforcers in changing verbal behavior. The one word which was used most often was "good." Other words used as reinforcers were "fine," "that's fine," "excellent," "umhum," and "that's good."

The effect of planned reinforcement counseling on decision making behavior was studied by Krumboltz (1964). His results indicated that selective reinforcement significantly increased desired verbalized responses. He also found that there was a transfer of the verbalized behavior to non-counseling settings.

Career planning through reinforcement counseling was investigated by Krumboltz and Shroeder (1965). Reinforcement of information

seeking responses in the interview produced significantly more responses of this type and increased information seeking behavior out of the interview situation.

Summary

The review of literature supported the counseling approach that through the use of verbal reinforcers, verbal behavior can be modified. The question as to whether there is necessarily a resultant behavior change was not clearly answered. Some studies reported generalization, others reported none. For example, Zelik (1959) concluded that emotionally laden topics which are experienced as aversion or anxiety producing could be modified. In contrast, Waskow (1962) was unable to increase the frequency of "feeling talk" through verbal reinforcement. He concluded that this type of reinforcer produced anxiety which decreased rather than increased talk about feelings.

Summary

A review of literature has been presented in this chapter with emphasis on general aggression, parental influence on aggression, fantasy aggression, play therapy, and operant learning.

In support of the hypotheses that play therapy incorporating anthropomorphic models, and operant group counseling with Indian mothers are justifiable, the following conclusions are presented:

1. Fantasy aggression may be displaced aggression.
2. There is a significant positive relationship between aggression and frustration at home.

3. Mother's discipline is highly related to overt aggression at school.
4. Fantasy aggression serves as a catharsis vehicle for repression.
5. Fantasy aggression serves as a drive reducer for overt aggression.
6. Type of doll play activities in play therapy are highly related to type and degree of discipline administered by a mother.
7. Through play therapy, children are allowed to symbolize, act out, and learn to control impulses.
8. Play therapy helps children to learn limits of socially accepted and unaccepted behavior.
9. Play therapy helps children to distinguish between reality and fantasy, thereby establishing better communication between themselves and others.
10. Operant behavior responses which are reinforced with social rewards probably recur.
11. Verbal responses which are reinforced in therapy tend to recur outside of therapy.
12. Words represent things because they reproduce some replica of the behavior toward those things. Social reinforcement words serve as behavior reinforcers.
13. Group counseling using operant conditioning with

social reinforcers changes verbal responses in a predicted direction.

Chapter III contains information concerning the population, experimental design, treatment procedures, treatment of the data, and the instrumentation.

CHAPTER III

Experimental Procedures

The population for this study was drawn from a Community Action Program preschool on the Gila River Indian Reservation. The children were all Indians, having an age range from five years seven months to six years three months. There were 33 children in the class, 3 of which were white. All of the Indian children were used in the study. The sample included boys and girls mostly of Pima descent, and living in the Sacaton, Arizona, area.

The purpose of this study was to determine whether two different treatment methods could decrease the overt physical and verbal aggression of preschool Indian children.

Specifically, the study attempted:

1. To determine the relative effects of using anthropomorphic models as a therapeutic medium in helping five-year-old Indian children appropriately handle and decrease physical and verbal aggression.
2. To determine the utility of group counseling with Indian mothers in decreasing physical and verbal aggression in their preschool children.

Experimental Design

The experimental design used was a Pretest-Posttest Control Group Design as defined by Campbell and Stanley (1963). Expressed

symbolically, this design is:

$$R_1 O \ X \ O$$
$$R_2 O \ X \ O$$
$$R_c O \quad O$$

where an X represents the exposure of a group to an experimental variable or event, the effects of which are to be measures; O refers to some process of observation or measurements; the X's and O's in a given row are applied to the same specific persons. The left to right dimension indicates the temporal order, and X's and O's vertical to one another, are simultaneous. Parallel rows preceded by an R represent comparison groups equated by randomization.

This design included the comparison of the pretest, posttest scores for each group, and a comparison for the significant differences between groups for the two main variables--verbal and physical aggression. These comparisons were based upon the assumptions that the only factor affecting differences was the treatment, and that the three groups were initially equivalent. The former assumption resulted from sources of internal validity being controlled by the parallelism of history, maturation, testing, instrumentation, regression, selection, mortality, and interaction. The latter assumption resulted from random assignment of subjects to the two treatment and one control groups. As explained by Campbell and Stanley (1963), this design did not control for unique intra-session history.

Treatment Procedures

One

The three randomly selected groups of ten children each were designated as Control Group One, Experimental Group One, and Experimental Group Two. The study covered a period of eight weeks. There was a minimum chance of contamination by the teacher as all of the Indian children in the class were included in the study. The observers (raters) had no previous knowledge of any child's group assignment.

Two

The observers included four female Indians who had worked as counselor aids for over one year. Observer training incorporated five simultaneous 20-minute observations by the Indian aids during classroom free play in another school not included in the experiment. The reliability of the observers was computed from these observations. The measurement instrument is found in Appendix A.

Three

Each of the thirty children in the samples was observed for 20 minutes during classroom free play for three consecutive days. These observations comprised the pretest and the scores were not tallied until after the final observations (posttest) were made.

Four

A standard control group procedure was followed for C_1 with no application of either treatment, group counseling with mothers,

or exposure to the anthropomorphic models.

Five

All ten children of E_1 (play therapy with anthropomorphic models) were placed in a controlled environment with the dolls three times each week (Monday, Wednesday, and Friday mornings during a regularly scheduled free play period) for a period of 35 minutes.

At the beginning of each treatment, the dolls were placed in a simulated family situation (see Appendix B for schedule). The children were allowed free access to the dolls during the allotted time. The experimenter encouraged the children to respond to the dolls as they would like to with an adult person.

Play therapy with the dolls had two objectives: (a) catharsis or displacement of aggressive impulses on fantasy objects, and (b) learning to correctly label and release aggressive impulses in appropriate ways.

Specific procedures within the therapy situation included:

1. Free play with the dolls. The only limit imposed was against deliberate destruction. The children were allowed to hit, kick, bite, and throw the dolls.
2. Free play with the play room equipment. The equipment in the play room included blocks, clay, paper, crayons, toy furniture, trucks, glue, chalk, puzzles, pencils, books, assorted construction paper, and toy dishes.

There were no limits imposed on the use or destruction of this property. There were no scissors or other materials which might require limit setting because of their harmful potential.

3. Limits on physical aggression toward peers and experimenter. The children were not allowed to hit, kick, bite, or pinch the experimenter or peers. All physical aggression was aimed toward the dolls.
4. Limits on verbal aggression. The children were allowed to verbalize any impulse. Constraints were imposed by peers and not the experimenter.
5. Limits on aggression toward school property other than play equipment. The children were not allowed to destroy or mark school property, i.e., break windows, mar walls, destroy furniture. Equipment in the play room other than the play equipment was one adult rocking chair, one child's rocking chair, four adult kitchen chairs, one card table, four sets of silverware, and one 3/4 size fold-up bed equipped with two blankets and two pillows.

Specific experimenter behaviors included:

1. Limit setting. The experimenter set and enforced the limits. Anger aroused in the children from limit setting was aimed toward the dolls by the experimenter. The experimenter did not allow the children to hit, pinch, kick,

or bite him. They also were not allowed to destroy his clothing or reach in his pockets. Infractions of limits were handled through physical constraint or verbal reclarification of the limits. The experimenter did not scold the children for infractions.

2. Identification and labeling of aggressive impulses. Each time the experimenter observed a child in verbal or physical contact with the dolls he attempted to reflect or clarify the behavior to the child. Verbalized emotions and feelings about adults, siblings, and peers were rewarded by the experimenter. The rewards were both verbal and physical. Verbal rewards were: "good," "that's fine," "OK," "I like that," and "I like you." Physical rewards were pats, squeezes, and hugs.

3. Relationship with the children. The experimenter held, fondled, rocked, stroked, and patted the children. The children were allowed to stroke, pat, and hug the experimenter.

Six

The mothers of E_2 met for 90 minutes each week over an eight-week period, making a total treatment time of 12 hours. The first half of the time each week the mothers spent seeing a film. The remainder of the time was spent in group counseling.

The experimenter's specific function during the group counseling sessions was verbal reinforcement. To reassure the mothers that the leader was listening, all reports of their behaviors, or comments pertaining to the criterion, were responded to in a manner which developed or reinforced three criterion behaviors. These criterion behaviors were: (a) overtly showing physical or verbal affection to a family member, (b) setting a discipline limit on a child and following through with the reward or punishment, and (c) clarifying a communication between herself and another family member. Statements relative to the criterion behaviors were reinforced through clarifications, reflections, and positive statements. Positive reinforcement statements were "excellent," "good," "that's good," "fine," "that's great," "umhmm." Non-verbal reinforcers were body posture, head nods, facial expression, and body movements. Reports which had no relevancy to the criteria were responded to: "Does the group understand what (name) means?" "Do you all know what (name) is saying?"

Reports which had some relevancy to the criteria were responded to: "Could you explain that further?" "I don't understand exactly what you mean." "It isn't clear to me what you are referring to."

After each 15 minutes, the leader summarized those mothers' reports which most closely approximated the criterion.

The mothers were paid $3.00 for each session they attended.

Seven

The counseling portion of each treatment was recorded on tape, and the number of verbal responses for all mothers was obtained. The total number of responses was tallied at the end of the eight treatments.

Eight

Upon completion of the treatments, the observers again tallied the aggression responses of the thirty children during classroom free play for 20 minutes on three consecutive days.

Treatment of the Data

The strategy of this study was:

1. To test for overall differences in physical and verbal aggression between posttest mean scores of the two treatment groups and the one control group; to test for significant changes within each of the three groups; and to test for overall differences in mean change scores between the two treatment groups and one control group.
2. To determine if group counseling had a significant effect on the verbal response rate of Indian mothers during treatment.
3. To determine if there was a relationship between the total number of E_2 mothers' verbal responses during treatment, and their children's resulting aggression during classroom free play.

The analysis of variance was used to test for differences between groups on the pre-treatment and post-treatment aggression scores as well as change in aggression scores.[1] Changes within each of the treatment groups and the control group were tested by use of the A statistic (correlated t test). Similarly, pre-treatment and post-treatment attendances were subjected to both the analysis of variance and the A statistic.[2] The change in the mothers' verbal responses from the first two weeks to the last two weeks of the treatment were analyzed using the A statistic. The levels at which the F and A statistics were significant were indicated if they were at the 0.20 level. In addition, Kendall's tau coefficients were computed to determine the relationship between E_2 mothers' total verbal responses during treatment, and children's verbal and physical aggression during free play.

Instrumentation

The instrument used to tally children on their physical and verbal aggressive behavior was a response check list developed by the investigator.

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[1] Levels of significance for the F statistic were taken from: Jerome L. Myers, Fundamentals of experimental design (Boston: Allyn and Bacon, 1966).

[2] Testing for significant changes in attendance between groups was not part of the original design and was added only as a supplement.

The check list for each child, shown in Appendix A, was divided into Part I and II. Part I consisted of five categories of physical aggression: (a) hits, kicks, bites; (b) chases in anger; (c) pushes, pulls, holds; (d) grabs property of others--damages property of others; and (e) raises arm to hit--raises foot to kick--any attempt to hurt another person or destroy property of another person. Part II consisted of five categories of verbal aggression: (a) threatens another person with regards hurt or property destruction, "I'm going to hurt you"--"I'm going to break that"; (b) commands--demands, "Get away"--"Give me that"--"That's mine"--"Move"; (c) shifts blame, "They did it"--"It's his fault"; (d) refuses to comply, "I won't do it"--"Make me"--"Do it yourself"; and (e) denies privilege, "You can't do that"--"That's not yours"--"You can't have a turn." The observer simply inserted an "X" in a "box" to the right of each behavior each time the behavior was demonstrated by the child.

Each child received twelve scores: five sub-categories and a total for physical aggression and five sub-categories and a total for verbal aggression. Only the total scores, however, were used in the analysis because of the paucity of data in the sub-categories.

Reliabilities were determined by comparison of observer ratings before the pre-treatment observations began. The four female Indian observers all scored the same five children before the pre-treatment observations. Use of children from a different

school was thought to prevent observer-treatment interaction and negate the chance for contamination. Kendall's tau coefficients were computed to compare ratings by pairs of raters, and Kendall's Coefficient of Concordance was computed to determine the degree of agreement between all four raters. The levels at which each coefficient was significant was listed. The results of the ratings were reported in Chapter IV.

CHAPTER IV

Analysis of the Data

The purpose of this study was to investigate (a) the influence of anthropomorphic models as a therapeutic vehicle to facilitate five-year-old Indian children in learning to express and appropriately deal with aggressive impulses, and (b) the influence of group counseling with Indian mothers as it effects five-year-old children's aggression. The investigation of aggression was accomplished by comparing the incidences of physical, verbal, and total aggression between one group treated by exposure to anthropomorphic models, a second group treated by exposure to mothers who have received group counseling, and a third group not treated. The investigation of the influence of group counseling on Indian mothers was accomplished by comparing verbal responses of mothers at the beginning and at the end of treatment. Attendance of mothers at the group sessions was also recorded. Investigation of the influence of the treatments on children's attendance was accomplished indirectly by inference from their attendance records before and after treatment.

The reliability of observers' ratings on physical and verbal aggression was expressed so as to reveal agreement between the four raters two at a time and between the four raters simultaneously. Each of the four observers rated the same five subjects. The frequencies recorded by each observer for any one subject were ranked and the

ranks compared--first, by computation of Kendall's tau in order to determine agreement between two observers at a time, and, second, by computation of Kendall's Concordance in order to determine agreement between the four observers.

The coefficients, tau and concordance, are listed in Table 1 along with the levels of significance. Inspection of that table reveals that the tau correlations ranged from 0.56 to 1.00 for physical aggression, and from 0.82 to 1.00 for verbal aggression, with levels of significance ranging from 0.042 to 0.242; and concordance correlations ranged from 0.80 to 1.00 for physical aggression, and from 0.71 to 1.00 for verbal aggression, with levels of significance ranging from 0.01 to somewhat over 0.05.

Although 0.242 appears to be a high level of significance, it can be accepted as legitimate because there were twenty tau correlations out of forty-eight which were significant at this level, and this is almost twice expectation. In addition, the remaining tau correlations were significant at either the 0.042 or 0.117. Similarly, six out of eight concordance correlations were significant at either the 0.05 or 0.01 levels, while only two were significant at slightly above the 0.05 level.

Consequently, the evidence suggests that there is sufficient reliability in the observers' rating to use them for comparisons of the experimental and control groups.

TABLE 1

Reliability of Observers' Ratings for Physical and Verbal Aggression

Expressed by Kendall's Tau and Kendall's Coefficient of Concordance

Aggression	Comparison	Subject 1 r	1 p	2 r	2 p	3 r	3 p	4 r	4 p	5 r	5 p
Physical	Kendall's Tau										
	1 vs 2	1.00	0.042	1.00	0.042	1.00	0.042	0.77	0.242	1.00	0.242
	1 vs 3	0.78	0.117	1.00	0.042	0.56	0.242	0.77	0.242	--[a]	--
	1 vs 4	0.84	0.042	0.94	0.042	0.63	0.242	0.77	0.242	1.00	0.242
	2 vs 3	0.78	0.117	1.00	0.042	0.56	0.242	1.00	0.117	--	--
	2 vs 4	0.84	0.042	0.94	0.042	0.88	0.117	1.00	0.117	1.00	0.242
	3 vs 4	0.84	0.042	0.94	0.042	0.76	0.117	1.00	0.117	--	--
	Kendall's Concordance	0.91	0.05	0.96	0.01	0.80	0.05	0.82	0.05	1.00	NO.05[b]
Verbal	Kendall's Tau										
	1 vs 2	0.82	0.242	--	--	--	--	1.00	0.242	1.00	0.117
	1 vs 3	0.82	0.242	--	--	--	--	1.00	0.242	0.93	0.117
	1 vs 4	1.00	0.117	--	--	--	--	1.00	0.242	1.00	0.117
	2 vs 3	1.00	0.242	--	--	--	--	1.00	0.242	0.93	0.117
	2 vs 4	0.82	0.242	--	--	--	--	1.00	0.242	1.00	0.117
	3 vs 4	0.82	0.242	--	--	--	--	1.00	0.242	0.93	0.117
	Kendall's Concordance	0.71	NO.05[b]	--	--	--	--	1.00	0.05	0.99	0.05

[a] Blank spaces indicate insufficient data for computation.

[b] Tables in Siegel do not go beyond the 0.05 level.

Analysis of variance of pre-treatment physical and verbal aggression, in order to verify group equivalence, was followed by analysis of variance of post-treatment physical and verbal aggression and changes in physical and verbal aggression. Similarly, pre-treatment attendance, post-treatment attendance, and changes in attendance were analyzed by analysis of variance. Changes in the verbal responses of E_2 mothers who were counseled were tested for significance by computing the A statistic (correlated t statistic). Kendall's tau coefficients were computed to determine the relationship between E_2 mothers' total verbal responses during treatment and children's aggression responses in free play.

Differences Between and Within Groups

Data were analyzed in order to ascertain differences between the two experimental and one control group as well as within the two experimental and control groups. Pre-treatment scores in physical, verbal, and total aggression and attendance were tested for differences so as to verify that the groups were actually equivalent at the outset of the experiment. Post-treatment scores in physical, verbal, and total aggression and attendance were tested in order to determine whether the groups were affected by treatment. Changes in physical, verbal, and total aggression were tested to reveal significance within each group, and to determine significance between the three groups. In addition, the verbal responses of the mothers with children in E_2 were analyzed to reveal changes from the first two

weeks as compared to the last two weeks of the experiment. Tests between and within groups with regard to physical and verbal aggression were followed by tests between and within groups with regard to attendance. Change in mothers' verbal responses followed the investigation of attendance.

Physical and Verbal Aggression

E_1 was exposed to anthropomorphic models, the mothers of E_2 received group counseling, while the control group was not exposed to treatment. Incidences of physical and verbal aggression were tabulated for each of the five pre-treatment and post-treatment sessions and summed. These sums were analyzed.

Pre-treatment. Because the three groups included in this study had only ten subjects per group, the probability of bias, even though the subjects were assigned randomly, was not remote. Consequently, it was necessary to test for differences between pre-treatment means in aggression in order to insure that the groups were initially equivalent. The possibility of initial differences in aggression was suggested by inspection of the pre-treatment means, shown in Table 2, where the mean physical aggression frequency for the control group, 13.9, was much less than the mean physical aggression frequencies for E_1 and E_2, 19.0 and 18.3, respectively; and the mean verbal aggression frequency for E_2, 4.5, was somewhat less than the mean verbal aggression frequencies for E_1, 6.1, and

TABLE 2

Means and Standard Deviations of Physical and Verbal Aggression Frequencies of Experimental and Control Groups

Group	Pre		Post	
	Mean	Std.Dev.	Mean	Std.Dev.
Physical				
E_1	19.0	18.20	12.1	8.86
E_2^1	18.3	17.38	13.3	10.26
C_1^2	13.9	14.72	11.6	10.41
Verbal				
E_1	6.1	4.82	4.0	3.13
E_2^1	4.5	3.75	3.8	3.19
C_1^2	7.5	9.48	6.0	6.22
Total				
E_1	25.1	20.44	16.1	10.45
E_2^1	22.8	20.07	17.3	11.98
C_1^2	21.4	17.16	17.6	14.78

C_1, 7.5. The analyses of variance for physical and verbal aggression, summarized in Table 3, however, revealed that there were no significant differences between the mean frequencies. As shown in that table, the F values of 0.27 for physical aggression, 0.53 for verbal aggression, and 0.09 for total aggression were not significant at either the 0.05 or 0.01 level. The original assumption that the experimental and control groups were equivalent was, therefore, accepted.

Post-treatment. Similarly, the analysis of variance of post-treatment scores in physical and verbal aggression, summarized in Table 4, revealed no significant F values for physical, verbal, or total aggression. Consequently, the mean post-treatment frequencies of the experimental and control groups, shown in Table 2, page 47, were considered statistically equal.

Changes. Over the period of the experiment, the frequency of physical, verbal, and total aggression decreased in both experimental groups and the control group. The greatest mean decrease was in E_1, followed by E_2, and the control group. Inspection of the A statistics in Table 5, revealed significant decreases in physical aggression for both experimental groups, significant decrease in verbal aggression for E_1, and significant decrease in total aggression for E_2 and C_1. When the changes of the groups were compared, the analyses of variance, summarized in Table 6, showed that there were no significant changes between the three groups.

TABLE 3

Summary of Analysis of Variance of Pre-treatment

Physical and Verbal Aggression Frequencies

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F*
Physical				
Groups	2	152.87	76.44	0.27
Within	27	7,649.00	283.30	
Total	29	7,801.87		
Verbal				
Groups	2	45.07	22.54	0.53
Within	27	1,143.90	42.37	
Total	29	1,188.97		
Total				
Groups	2	69.80	34.90	0.09
Within	27	10,034.90	371.66	
Total	29	10,104.70		

*.05 = 3.35

.01 = 5.49

.20 = 1.73

TABLE 4

Summary of Analysis of Variance of Post-treatment

Physical and Verbal Aggression Frequencies

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F*
Physical				
Groups	2	15.27	7.64	0.08
Within	27	2,629.40	97.39	
Total	29	2,644.67		
Verbal				
Groups	2	29.60	14.80	0.76
Within	27	527.60	19.54	
Total	29	557.20		
Total				
Groups	2	12.60	6.30	0.04
Within	27	4,241.40	157.09	
Total	29	4,254.00		

*.05 = 3.35

.01 = 5.49

.20 = 1.73

2

TABLE 5

Means, Standard Deviations, and A Statistics of Changes in Physical and Verbal Aggression Frequencies of Experimental and Control Groups

Group	Mean	Std.Dev.	A
Physical			
E_1	-6.90	12.62	0.40***
E^1_2	-5.00	9.30	0.41***
C^2_1	-2.30	6.67	0.86
Verbal			
E_1	-2.1	3.14	0.30**
E^1_2	-0.7	3.53	1.43
C^2_1	-1.5	5.76	2.39
Total			
E_1	-9.0	14.17	0.32**
E^1_2	-5.7	11.38	0.49
C^2_1	-3.8	5.39	0.28*

*$p < 0.05$.

**$p < 0.10$.

***$p < 0.15$.

TABLE 6

Summary of Analysis of Variance of Changes

in Physical and Verbal Aggression of

Experimental and Control Groups

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F*
Physical				
Groups	2	106.87	53.44	0.46
Within	27	3,142.30	116.38	
Total	29	3,249.17		
Verbal				
Groups	2	9.87	4.94	0.24
Within	27	547.80	20.29	
Total	29	557.67		
Total				
Groups	2	140.60	70.30	0.46
Within	27	4,100.10	151.86	
Total	29	4,240.70		

*.05 = 3.35

.01 = 5.49

.20 = 1.73

Statistical analysis of data uncovered no differences between groups on pre-treatment measures and post-treatment measures of physical, verbal, and total aggression. There were, however, significant decreases in physical aggression with the two groups exposed to treatment; significant decrease in verbal aggression within the group exposed to anthropomorphic models; and significant decreases in total aggression within the group exposed to anthropomorphic models and within the control group. Tests on differences in changes between groups, however, revealed no significant differences.

Attendance

The attendance of subjects was recorded for 45 days preceding and following the treatment period. Differences between groups before treatment were tested in order to verify equivalence before treatment. Differences between groups after treatment were tested in order to ascertain the effect of treatment. Changes from pre-treatment to post-treatment attendance were tested to reveal the effect of treatment or no treatment within the experimental and control groups.

Pre-treatment. Inspection of the mean pre-treatment attendance for the experimental and control groups, shown in Table 7, revealed that E_2 had a much greater attendance. The summary of the analysis of variance, shown in Table 8, however, verified that the means for the three groups were not significantly different because the F value of 1.62 was not significant at the 0.20 level.

TABLE 7

Absences of Subjects in Experimental and Control Groups During the 45 Days Before and After Treatment Began

Subject	E_1		E_2		C_1	
	Before	After	Before	After	Before	After
1	2	5	20	13	5	2
2	0	1	1	8	10	18
3	5	1	21	13	5	10
4	3	2	0	0	12	7
5	8	2	3	0	8	5
6	5	2	20	8	3	2
7	16	15	8	14	4	11
8	12	1	39	9	3	5
9	5	3	2	3	7	2
10	4	2	4	3	7	8
Mean	6.00	3.40	11.80	7.10	6.40	7.00
Std.Dev.	4.81	4.25	12.75	5.34	2.99	5.06

TABLE 8

Summary of Analysis of Variance of Changes in Absences of Experimental and Control Groups 45 School Days Before, and 45 School Days After Treatment Began

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F*
Pre-treatment				
Groups	2	209.87	104.94	1.62
Within	27	1,752.00	64.89	
Total	29	1,961.87		
Post-treatment				
Groups	2	88.87	44.44	1.85
Within	27	649.30	24.05	
Total	29	738.17		

*.05 = 3.35

.01 = 5.49

.20 = 1.73

Post-treatment. Similarly, the mean post-treatment attendances of E_2 and C_1 were much greater than the mean post-treatment attendance of E_1. The F value of 1.85, shown in Table 7, page 54, was not however, significant at the 0.20 level. The mean post-treatment attendances were, therefore, assumed to be approximately equal.

Change in attendance. When mean changes in attendance, shown in Table 9, were analyzed, the F value of 1.40, shown in Table 10, was not significant at the 0.20 level. Consequently, the mean changes in attendance were considered to be approximately equal. In addition, when the change in attendance within each group was tested with the A statistic, shown in Table 9, E_1 showed a significant change at the 0.10 level.

The analysis of attendance has uncovered no significant differences between the experimental and control groups before or after treatment, a significant decrease in attendance within E_1, and no significant differences between the changes in attendance.

Mothers' Responses

E_2 consisted of eight sessions with the mothers of the children. The mothers' attendance record during the treatment period indicated that eight of the ten mothers were present at all eight sessions, one of the ten attended seven sessions, and one was present for five sessions. Mothers were encouraged to respond during these sessions. The mothers' verbal responses during the first and last

TABLE 9

Means and Standard Deviations of Absence Changes

for Experimental and Control Groups

Group	Mean	Std.Dev.	A
E1	-2.60	3.86	0.30**
E2	-4.70	10.71	0.57
C	+0.60	4.81	13.13

**p < 0.10.

TABLE 10

Summary of Analysis of Variance of

Change in Absences

Source of Variation	Degrees of Freedom	Sum of Squares	Mean Square	F*
Groups	2	142.47	71.24	1.40
Within	27	1,374.90	50.92	
Total	29	1,517.37		

*.05 = 3.35

.01 = 5.49

.20 = 1.73

two sessions were compared with an A statistic, as shown in Table 11. The change of 2.00 was significant at the 0.01 level.

The correlations of E_2 mothers' total verbal responses during treatment with their children's physical and verbal aggression in classroom free play shown in Table 12, which were -0.16 and 0.03, respectively, were not significant at the 0.20 level.

Summary of Findings

The analysis of observer ratings as expressed by Kendall's Tau and Kendall's Coefficient of Concordance suggested that there was sufficient reliability to use the ratings for comparing aggression responses between the experimental and control groups.

The previous analysis has shown that there were decreases in both physical and verbal aggression for the two experimental groups and the control group during the treatment period. The findings indicated, however, that there were no significant differences in physical, verbal, or total aggression between the experimental and control groups either before or after treatment.

Analysis of changes within groups indicated that there were significant decreases in physical aggression for both experimental groups, a significant decrease in verbal aggression for E_1 and a significant decrease in total aggression for E_2 and C_1.

The analysis of pre-treatment and post-treatment attendance revealed no significant differences between the groups; however,

TABLE 11

Analysis of Change in Verbal Response of Mothers

in Experimental Group Two

Statistic	First Two Sessions	Last Two Sessions	Change
Mean	1.20	3.20	2.00
Std. Dev.	1.87	2.57	1.33
	A = 0.14	p < 0.01	

TABLE 12

Ranked Frequencies of Subject's Aggression and Mother's Verbal Responses During Treatment for Experimental Group Two Including Correlations

Subject	Subject's Total Physical Freq.	Subject's Total Physical Rank	Subject's Total Verbal Freq.	Subject's Total Verbal Rank	Mother's Responses Freq.	Mother's Responses Rank
1	7	3.5	3	6.0	12	8.0
2	15	7.0	1	1.0	23	9.5
3	7	3.5	2	3.0	5	5.5
4	28	9.0	2	3.0	4	3.5
5	10	6.0	3	6.0	0	1.5
6	9	5.0	4	8.0	4	3.5
7	2	1.0	2	3.0	5	5.5
8	6	2.0	3	6.0	9	7.0
9	18	8.0	12	10.0	23	9.5
10	33	10.0	6	9.0	0	1.5

Kendall's Tau for S's Physical Aggression vs Mothers' Responses = -0.16

Kendall's Tau for S's Verbal Aggression vs Mothers' Responses = 0.03

there was a significant decrease in absences for the group exposed to anthropomorphic models.

Although verbal responses for the mothers of subjects in E_2 increased significantly, there were no significant correlations between mothers' verbal responses and their children's verbal or physical aggression at school.

CHAPTER V

Summary, Conclusions, and Recommendations

Summary

The purpose of this study was to determine whether two different treatment methods could decrease the overt physical and verbal aggression in preschool Indian children. Specifically, the study attempted:

1. To determine the relative effects of using anthropomorphic models as a medium in helping five-year-old Indian children to appropriately handle and thereby decrease physical and verbal aggression.
2. To determine the utility of group counseling with Indian mothers thereby decreasing physical and verbal aggression in their preschool children.

The specific hypotheses to be tested were:

HO_1 There are no significant differences between the mean aggression frequencies for children in the two treatment groups (E_1 and E_2), and C_1--the control group--on the two criterion measures, overt physical and verbal aggression in classroom free play.

HO_2 There is no significant difference between the total number of verbal responses for the mothers of E_2 when comparing the mean scores of the first two and last two

treatments.

HO_3 There is no significant relationship between the total number of mothers' verbal responses during treatment, and changes in children's physical and verbal aggression in classroom free play.

The population for this study was drawn from a Community Action Program preschool on the Gila River Indian Reservation. The children were all Indians, having an age range from five years seven months to six years three months. The sample included boys and girls mostly of Pima descent, and living in the Sacaton, Arizona, area.

Three randomly selected groups of 10 students each were designated as C_1, E_1, and E_2. Treatment extended for a period of eight weeks.

Group E_1 (play therapy with anthropomorphic models) was placed in a controlled environment with the dolls three times each week (Monday, Wednesday, and Friday mornings during a regularly scheduled free play period) for a period of 35 minutes. At the beginning of each treatment, the dolls were placed in a simulated family situation (see Appendix B for schedule). The children were allowed free access to the dolls during the allotted time. The experimenter encouraged the children to respond to the dolls as they would <u>like</u> to with an adult person. Play therapy with the dolls had two main objectives: (a) catharsis or displacement of aggressive impulses on fantasy objects, and (b) learning to correctly label and release aggressive impulses in appropriate

ways. The children were allowed complete freedom to respond to the dolls in any manner they wished. They were also allowed to verbalize any impulse with no constraints from the experimenter. They were not allowed, however, to physically aggress either the experimenter or their peers. The experimenter set and enforced the limits. He reinforced behavior relative to the specified objectives through verbal rewards ("good," "that's fine," etc.) or physical rewards (pats, squeezes, or hugs).

The mothers of the children in E_2 met for 90 minutes each week over an eight-week period making a total treatment time of 12 hours. The first half of the time each week the mothers spent seeing a film or listening to formal instruction. The remainder of the time was spent in group counseling. The experimenter's specific function during the group counseling sessions was verbal reinforcement pertaining to three criterion behaviors. These criterion behaviors were: (a) overtly showing physical or verbal affection to a family member, (b) setting a discipline limit on a child and following through with a reward or punishment, and (c) clarifying a communication between herself and another family member. Each session was recorded on tape to compute the total number of verbal responses made by each mother during treatment.

The observers were four female Indians who had worked as counselor aides for over one year. Observer training incorporated five simultaneous 20-minute observations by the Indian aides during classroom free play in another school not included in the experiment. The

reliability of these observations was computed using Kendall's Concordance and Kendall's Tau.

Each of the thirty children in the samples was observed by an Indian rater for 20 minutes during classroom free play on three consecutive days. These observations comprised the pretest and the scores were not tallied until after the final observations (posttest).

A standard control group procedure was followed for C_1 with no application of either treatment, group counseling with mothers or exposure to the anthropomorphic models.

The instrument used to score children on their physical and verbal aggressive behavior was a response check list developed by the investigator. The check list for each child, shown in Appendix A, was divided into Parts I and II. Part I consisted of five categories of physical aggression which can be readily observed: (a) hits, kicks, bites; (b) chases in anger; (c) pushes, pulls, holds; (d) grabs property of others--damages property of others; and (e) raises arm to hit--raises foot to kick--any attempt to hurt another person or destroy property of another person. Part II consisted of five categories of verbal aggression which also can be readily observed: (a) threatens another person with regards to hurt or property destruction; (b) commands--demands; (c) shifts blame; (d) refuses to comply; and (e) denies privilege.

The statistical strategy of this study was to test for overall differences between posttest mean scores of the two treatment groups

and the one control group; to test for significant changes within each of the three groups; and to test for overall differences in mean change scores between the two treatment groups and one control group. The study was also designed to determine if group counseling had a significant effect on the verbal response rate of Indian mothers during treatment, and also, if there was a relationship between the total number of mothers' verbal responses during treatment to their children's resulting behavior during classroom free play.

The analysis of variance was used to test for differences between groups, and the A statistic was used to test for differences within each of the three groups. Kendall's Tau coefficients were computed to determine the relationship between E_2 mothers' total verbal responsas during treatment and their children's aggression during free play at school.

Conclusions

There were three hypotheses--the tests of which yielded answers to the stated problem. The findings related to each hypothesis, and the conclusion inferred therefrom were as follows.

Hypothesis One

The first null hypothesis tested stated:

> There are no significant differences between the mean aggression frequencies for children in the two treatment groups (E_1 and E_2), and C_1--the control group--on the two criterion measures, overt physical and verbal aggression in classroom free play.

Findings. There were no significant differences in the physical, verbal, or total aggression between the two experimental and control groups before or after treatment as was determined by analysis of variance. Using Sandler's A statistic, however, it was determined that there were significant decreases in physical aggression for E_1 and E_2 at the 0.15 level, and a decrease in verbal aggression for E_1 at the 0.10 level. Decreases in total aggression were indicated for E_1 at the 0.10 level, and C_1 at the 0.05 level.

Conclusion. The physical and verbal aggression as expressed by the five-year-old Indian children in this study decreased during the treatment period for all three groups. There were no significant changes between groups, and the changes within indicated that the control group changed equally as much as the experimental groups for total overall aggression. It must be concluded, therefore, that play therapy using anthropomorphic models, and group counseling with mothers does not significantly change the aggressive behavior of five-year-old Indian children in preschool.

Hypothesis Two

The second null hypothesis tested stated:

> There is no significant difference between the total number of verbal responses for the mothers of E_2 when comparing the mean scores of the first two and last two treatments.

Findings. Comparison of the mothers' total verbal responses during the first two and last two treatments using the A statistic indicated that a mean change of 2.00 was significant at the 0.01 level.

Conclusions. The number of verbal responses of Indian mothers increased significantly during group counseling; there was no significant relationship, however, between this increase and their children's aggressive behavior at school.

Hypothesis Three

The third null hypothesis tested stated:

> There is no significant relationship between the total number of mothers' verbal responses during treatment, and changes in children's physical and verbal aggression in classroom free play.

Findings. Kendall's coefficients of correlation between the mothers' total verbal responses during treatment and their children's physical aggression, -0.16, and verbal aggression, 0.03, were not significant at the 0.20 level.

Conclusion. Although counseling the mothers of five-year-old Indian children resulted in a significant increase in verbal responses, there was no significant relationship between this increase and their children's physical and verbal aggression in preschool.

The analysis of pre-treatment and post-treatment attendance records revealed no significant differences between the two experimental and control groups. There was, however, a significant decrease in absences (0.10 level) for the group exposed to the anthropomorphic models as was shown by the A statistic.

Recommendations

The conclusions indicated by the results of this study did not support the hypothesis that play therapy using anthropomorphic models significantly decreases physical and verbal aggression for five-year-old Indian children in preschool. The slight changes in aggression and attendance, however, suggest a continuation of the treatment over a longer period of time, or at least offer support for further investigation.

The results of the study indicated that even though group counseling with Indian mothers significantly increased verbal output, there was no significant relationship between their change in verbal response and a resultant change in their children's aggressive behavior or attendance at preschool.

The significant decrement in the overall aggression of the control group is difficult to interpret. The overall mean decrease in all three groups might suggest, however, that as very aggressive children become less aggressive, the other children tend to imitate aggression responses less, or the need to defend oneself lessens.

In considering the implications of the study results, it should be noted that the criterion instrument measured only quantitative and not qualitative aggression responses. This might indicate the need for a continuation of the study which would investigate other variables such as academic success and positive inter-personal relationships.

It should also be noted that the aggression response records indicated significant decreases for some individuals which were not apparent when comparing groups. (See Appendices E, F, and G.) It could be recommended, therefore, that another similar study be designed which would incorporate non-parametric statistical analysis to determine individual changes.

Personal observations by the experimenter included the following:

1. Children who seemed to adjust adequately to the school environment both socially and academically tended to ignore the models or use them for play. Anthropomorphic models could be placed in school play rooms to select children who might benefit from this type of therapy.
2. Group size seemed to be a significant factor in play therapy with the models. Ten subjects left the experimenter little time to concentrate on subgroup dynamics. The group seemed to operate more effectively on days when there were two or three absent.
3. Five-year-old Indian children readily transfer emotion to anthropomorphic models. During the first session, seven out of the ten children had aggressed the models one or more times. Some of the children would lay on the models and kiss or hug them.

4. For this group of children, psychosexual development tended to make a difference where and how they would aggress the dolls. The favorite aggression spots on the dolls for the boys were the woman's breasts and the man's genital area. The girls seemed to hit the stomach areas of both models. It seemed also significant to note that some of the children preferred one model to the other to aggress. This might suggest another study comparing the types of responses to the models with mother-father interpersonal relationships.
5. Of the thirty letters (Appendix D) which were sent out to the mothers, only one mother responded that she was not interested in participating in group counseling. Even though those participating were paid for attending, they asked if we could continue after the study had concluded. This, along with the fact that the group had 95 percent attendance would tend to indicate that Indian mothers would respond favorably to similar programs which might be instigated by federal and public schools.

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APPENDIX A. AGGRESSION RESPONSE CHECK LIST

I. PHYSICAL AGGRESSION

1. Hits, kicks, bites
2. Chases in anger
3. Pushes, pulls, holds
4. Grabs property of others, damages property of others
5. Raises arm to hit--raises foot to kick-- any attempt to hurt another person or destroy property of another person

II. VERBAL AGGRESSION

1. Threatens another person with regards hurt or property destruction (I'm going to hurt you)
2. Commands--demands (Get away-- Give me that--That's mine-- Mine)
3. Shifts blame (They did it-- Its his fault)
4. Refuses to comply (I won't do it--Make me--Do it yourself)
5. Denies privilege (You can't do that--That's not yours-- You can't have a turn)

APPENDIX B

SIMULATED FAMILY SITUATIONS

1. Male and female at table.
2. Male and female sitting in chairs talking.
3. Male and female sitting in chairs reading.
4. Male reading, female sitting at table.
5. Female standing with arm raised toward male.
6. Male standing with arm raised toward female.
7. Both male and female in bed.
8. Male in bed--female at table.
9. Female in bed--male at table.
10. Male in bed--female sitting in chair looking at him.
11. Female in bed--male looking at her.
12. Male and female sitting with arms around each other.
13. through 20. Repeat situations most successful in stirring responses in the children.

APPENDIX C

COUNSELING SCHEDULE WITH MOTHERS

Session I. Introduction.

Film: Frustrating Fours and Fabulous Fives, McGraw, 22 minutes. Group discussion.

Session II. Film: Preface to Life. USPHS, 29 minutes. Group discussion. Parental influence on personality.

Session III. Film: Children's Emotions. Mental Health Film Board, 30 minutes. Group discussion.

Session IV. Film: Helping Children Accept the Do's. McGraw, 20 minutes.

Film: Helping Children Accept the Don'ts. McGraw, 20 minutes. Group discussion.

Session V. Film: Sibling Relations and Personality. McGraw, 22 minutes. Group discussion.

Session VI. Film: Understand Your Emotions. MHFB, 30 minutes. Group discussion.

Session VII. Demonstration on moral development. Group discussion.

Demonstration on moral development. Specifically ~~one male~~ and one female Indian child of ages five, six, seven, eight, and nine will be asked the following questions:

1. What does stealing mean?--What does it mean to steal? If one boy (girl) your age steals a wrist watch (show your wrist), and one steals a package of gum, which do you think is the worst?
2. What is a lie? What does it mean to tell a lie? If I said that 2 + 2 = 5, would that be a lie? Would it be worse to lie to your mother, teacher, or Sunday School teacher?

This demonstration is designed to enable the mothers to trace the moral development of their children. Hopefully it will help them to have a better understanding of behavior patterns, and facilitate limit setting.

Session VIII. Open.

APPENDIX D

INFORMATION LETTER

Dear Headstart Parent:

The education department of the Gila River Community Action Program is interested in developing the headstart program here on the reservation into the best one possible. In doing so, we have designed a research study to investigate different methods of helping children to better adjust to school settings. One of the methods we have proposed is an eight-week class for headstart mothers.

Because it will be experimental, the class will be limited to only ten mothers in the Sacaton area. The class will be held at 7:00 P.M. on Tuesday evenings beginning March 26, 1968. Each mother will be paid $3.00 for every class she attends and she will be paid at the end of each class.

The classes will be 90 minutes long. Each class will begin with a film followed by a group discussion.

Mothers not having transportation will be picked up and returned home.

If you are interested in attending this special class please sign this sheet and give it to the counselor who contacted you.

Sheldon Prestwich, Counselor
Community Action Program

I am interested_____ I am not interested_____

_____
(signature)

Films to be seen:

Frustrating fours and fabulous fives
Preface to life. (Development of personality)
Children's emotions
Helping children to accept the do's
Helping children to accept the don'ts
Sibling relations and personality
Understanding your emotions

APPENDIX E

AGGRESSION FREQUENCIES--EXPERIMENTAL GROUP 1

Subject	Pretest			Posttest		
	Physical	Verbal	Total	Physical	Verbal	Total
1	58	10	68	23	7	30
2	23	5	28	19	2	21
3	12	4	16	15	6	21
4	26	4	30	26	5	31
5	13	1	14	7	2	9
6	38	13	51	16	5	21
7	2	14	16	5	10	15
8	16	3	19	5	1	6
9	2	7	9	5	2	7
10	0	0	0	0	0	0
Totals	190	61	251	121	40	161

APPENDIX F

AGGRESSION FREQUENCIES--EXPERIMENTAL GROUP 2

Subject	Pretest			Posttest		
	Physical	Verbal	Total	Physical	Verbal	Total
1	5	0	5	7	3	10
2	27	2	29	15	1	16
3	9	4	13	5	2	7
4	27	2	29	28	2	30
5	4	7	11	10	3	13
6	9	2	11	9	4	13
7	7	5	12	2	2	4
8	9	3	12	6	3	9
9	26	7	33	18	12	30
10	60	13	73	33	6	39
Totals	183	45	228	133	38	171

APPENDIX G

AGGRESSION FREQUENCIES--CONTROL GROUP 1

Subject	Pretest			Posttest		
	Physical	Verbal	Total	Physical	Verbal	Total
1	10	1	11	6	4	10
2	13	2	15	8	1	9
3	13	33	46	14	20	34
4	0	8	8	1	2	3
5	0	0	0	1	0	1
6	20	7	27	18	11	29
7	0	7	7	4	0	4
8	16	5	21	8	6	14
9	50	3	53	33	9	42
10	17	9	26	23	7	30
Totals	139	75	214	116	60	176

BIOGRAPHICAL SKETCH

Sheldon Graff Prestwich was born in Cedar City, Utah, on June 1, 1931. He received his elementary and secondary education in the Cedar City public schools. In 1954 he graduated from Utah State University with a Bachelor of Science degree in Animal Husbandry. He entered the United States Air Force in 1954 and was honorably discharged as a First Lieutenant in 1956. From 1956 until 1960 he was self-employed as a rancher and part-time student graduating from Utah State University with a Bachelor of Science degree in Elementary Education. In 1961 he graduated from the University of Utah with a Master of Science degree in Educational Psychology. He has had experience as a Vocational Rehabilitation Counselor, School Psychologist, Junior College Counselor, and Instructor in Psychology at Dixie College, Utah, and Mesa College, Arizona. While studying for the Doctor of Philosophy degree at Arizona State University, he was employed as a counseling psychologist on the Gila River Indian Reservation. Since September, 1968, he has been employed as a psychologist for the Utah State Department of Mental Health. He is married and has three children.